



EDITORIAL

Anorectal side-effects of radical cystectomy

From both the healthcare system's and scientific society's point of view, improvements in major outcomes after commonly performed surgical procedures must be evaluated in terms of negative secondary outcomes related to long-term side-effects of the treatment delivered. Examples of such secondary outcomes include disturbed intestinal and sexual function after rectal cancer surgery and long-term pain after inguinal hernia repair. The ultimate parameter of surgical success, however, is the patient's perceived Health-Related Quality-of-Life (HRQoL).

For every undesirable side-effect of a surgical procedure, we must consider: 1. What is the likely impact of the side-effect on the patient's quality of life? 2. What is the cause of the side-effect? 3. Is it possible to avoid the side-effect? And 4. Is avoidance of the undesirable side-effect worth the price in terms of a possible negative effect on the main outcome variable?

In a study recently published in this journal [1], Liedberg and colleagues from the University of Lund presented the anorectal side-effects of radical cystectomy. As with many other malignant diseases where successful treatment includes a major surgical procedure, long-term results of treatment for bladder cancer have improved considerably over recent years. The time has thus come to consider the secondary outcomes and side-effects of this procedure.

The main outcome variables in Liedberg's study were the Low Anterior Resection Syndrome (LARS) Score and the St Marks Score. The authors reported an increased frequency of flatus incontinence, though its impact on HRQoL is unknown since no such dedicated instrument was included in the study protocol. Unfortunately, there is no specific instrument to evaluate anorectal side-effects of procedures in that region other than for low anterior resection for rectal cancer. Furthermore, instruments designed for patients with incontinence of unknown aetiology or secondary to sphincter injury do not adequately cover common aspects such as urgency and elements of obstruction. More comprehensive specific instruments are needed. The author's choice to combine the St Marks score with the LARS score seems well motivated even though these instruments are not explicitly validated for radical cystectomy patients. Assuming validity of their outcome measure, the results indicate that radical cystectomy can lead to patient inconvenience in the form of flatus incontinence.

Further research into the anorectal side-effects of radical cystectomy must include how relevant they are for the patient. Their impact on HRQoL is fundamental to our understanding of procedure outcome, but HRQoL must also be followed over time since there is a considerable risk that anorectal dysfunction may deteriorate. We know that anorectal dysfunction with decreased resting anal pressure and

decreased sensation are partly counteracted by compensatory mechanisms. Unfortunately, these compensatory mechanisms become less effective with age [2]. Since patients undergoing radical cystectomy are usually elderly, successive escalation of the complaints described by Liedberg and colleagues [1] can be expected. This further underlines the importance of their study.

Liedberg and colleagues found decreases in resting anal sphincter pressure and anal sensation at manovolumetry, but no structural changes were seen with 3D endoanal ultrasonography. This leaves the question - what is the mechanism behind flatus incontinence? The weakness of this study is the long inclusion time and the fact that the study was prematurely stopped before reaching half the number of patients intended. Despite this, the similarity between pre- and postoperative endoanal 3D ultrasonography rules out the possibility of intraoperative structural damage to anorectal structures as being the cause. More likely is damage to the complex neural control of anorectal function, and the findings of decreased resting anal pressure and sensation support this.

Based on a broad collection of data, Liedberg's study [1] is the largest scientific attempt to evaluate anorectal function after radical cystectomy to date. Unfortunately, the number of patients included and amount of data available did not allow an exact description of the mechanism behind the impairment of anorectal function. The difficulty in recruiting patients to a demanding study such as this are well known to surgeons and urologists. This, and other studies that have not been able to include the number of patients intended, clearly highlights how important it is to carefully offer and motivate patients to participate in well-designed studies. The lesson learned from the present study is to carefully select the measurements and outcomes used in future trials. High resolution manovolumetry, measurement of pudendal nerve motor latency, EMG, and questionnaires regarding anorectal function such as Wexner, LARS, St Marks, and HRQoL are all required to provide the knowledge we need, while 3D ultrasonography can be omitted.

It is well known from colorectal surgery that extensive dissection close to the inferior mesenteric artery and aorta is associated with autonomic nerve dysfunction. In modern nerve-sparing rectal cancer surgery, impotence, for instance, should no longer be a consequence. However, impotence is unfortunately an unavoidable consequence of routine radical cystectomy, and its occurrence cannot be used as a sign of unintended structural damage. However, the degree of aggression of lymph node dissection, a much-debated topic among urologists [3,4], could cause damage to the autonomic innervation of the rectum and anus. The study by Liedberg and colleagues [1] does not allow for analysis of

this issue but according to their data, most of their patients had lymph node dissection up to the aortic bifurcation. More aggressive lymph node dissection including presacral dissection further increases the risk for damage to the autonomic innervation of the rectum and anus. In view of the possible relationship between extent of lymph node dissection and impaired anorectal function, larger prospective trials designed to investigate the benefits of different degrees of lymph node dissection in radical cystectomy are needed, and these must also include evaluation of anorectal side-effects.

Is it possible to avoid impairment of anorectal function after radical cystectomy? To answer this question, we must know the mechanisms behind these side-effects and whether the degree of lymph node dissection plays an important role. Present scientific evidence for the long-term beneficial oncologic effect of very extensive lymph node dissection is lacking [3,4], and the risk for anorectal dysfunction argues against extensive dissection unless evidence shows otherwise. As luck would have it, both topics *i.e.* the oncologic benefit of extended lymph node dissection and the anorectal side-effects are well suited for a common multicentre trial. Liedberg's difficulty in recruiting patients to their study is important to bear in mind when designing the protocol of such a trial.

Disclosure statement

No potential conflict of interest was reported by the author.

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